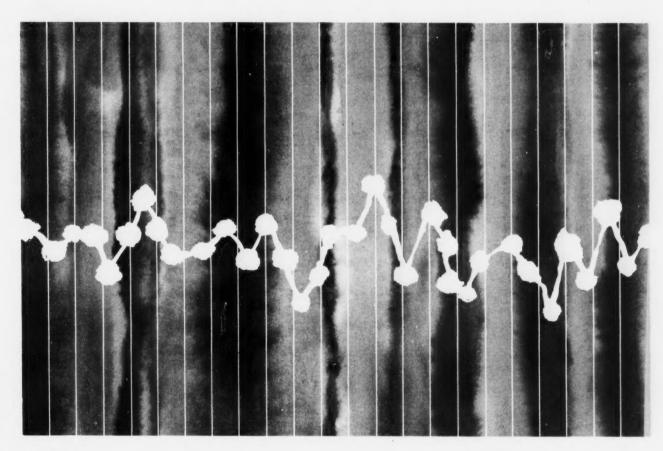
# defense indicators

**JANUARY 1974** 





U.S. DEPARTMENT OF COMMERCE . Social and Economic Statistics Administration . BUREAU OF ECONOMIC ANALYSIS

This report was prepared in the Statistical Indicators Division, Bureau of Economic Analysis. Technical staff and their responsibilities for the publication

Barry A. Beckman—Technical supervision and review,

Morton Somer-Selection of seasonal adjustment methods,

Betty F. Tunstall—Collection and compilation of basic data.

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The Secretary of Commerce has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this Department. Use of funds for printing this periodical has been approved by the Director of the Office of Management and Budget through September 1, 1975.



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#### Introduction

The purpose of this monthly report is to bring together the principal time series on defense activity which influence short-term changes in the national economy. These include series on obligations, contracts, orders, shipments, inventories, expenditures, employment, and earnings. Most are monthly but a few quarterly series are included. The series numbers used are for identification purposes only and do not reflect relationships or order.

#### Classification of Series

Chart 1 compares Government purchases of goods and services for national defense with total gross national product. GNP is the market value of the final output of goods and services produced by the Nation's economy and represents a very broad measure of aggregate economic activity. In addition to national defense purchases, it includes Federal Government purchases of goods and services for nondefense purposes, State and local government purchases, personal consumption expenditures, gross private domestic investment, and net exports of goods and services. Chart 1 also presents national defense purchases as a percent of gross national product and, for both series, changes from the previous quarter.

A related group of series is shown in Chart 4, "Defense-Related Balance of Payments Components." These series show the effects of defense-related economic activity on the balance of payments accounts.

The remaining series are grouped in accordance with the time at which the activities they measure occur within the defense order-production-delivery process. Those series measuring activities that usually precede production, such as new orders placed with defense products industries and contract awards, are presented in Chart 2, "Advance Indicators of Defense Activity." Chart 3, "Intermediate and Final Indicators of Defense Activity," presents series that measure activities which tend to move at the same time as production (such as employment) and activities which usually follow production (such as shipments).

#### Series Included

Following is a list of the series as they appear in charts 1, 2, 3, and 4 (the source agencies are abbreviated in parentheses; detailed lists of sources for charts 1, 2, and 3 appeared as appendixes to the August and October 1968 issues of this report).

Gross National Product and National Defense Purchases

Gross national product (BEA)

Federal Government purchases of goods and services, national defense (BEA)

National defense purchases as a percent of gross national product (BEA)

Gross national product, changes from previous quarter (BEA) National defense purchases, changes from previous quarter (BEA)

#### Advance Indicators of Defense Activity

Defense Department gross obligations incurred, total (DOD)
Defense Department gross obligations incurred, procurement (DOD)

Gross obligations incurred outside the Government for national defense (Treasury)

Defense Department military prime contract awards for work performed in the United States (DOD)

Defense Department gross unpaid obligations outstanding (DOD)

Manufacturers' new orders (Census):

Defense products industries

Defense products

Manufacturers' new orders from the U.S. Government, aerospace industries (Census):

Average weekly overtime hours, production workers, defense products industries (BLS)

Accessions, defense products industries (BLS)
Layoffs, defense products industries (BLS)

Intermediate and Final Indicators of Defense Activity

Manufacturers' inventories (Census):

Defense products industries

Defense products

Manufacturers' unfilled orders (Census):

Defense products industries

Defense products

Manufacturers' unfilled orders from the U.S. Government, aerospace industries (Census)

Defense Department progress payments outstanding (DOD) Employment in defense products industries, total (BLS)

Employment in defense products industries, production workers (BLS)

Index of aggregate weekly man-hours, defense products industries (BLS)

Index of aggregate weekly payrolls, production workers, defense products industries (BLS)

Defense Department manpower, military (DOD)

Defense Department manpower, civilian (DOD)

Defense Department net outlays, total, military functions and military assistance (DOD)

Defense Department net outlays, procurement (DOD)

Budget outlays for the national defense function (Treasury) Defense Department personnel compensation (DOD)

Manufacturers' shipments (Census):

Defense products industries

Defense products

Manufacturers' shipments to the U.S. Government, aerospace industries (Census):

Ratio, manufacturers' unfilled orders to shipments (Census): Defense products industries

Defense products

Ratio, manufacturers' inventories to shipments (Census):

Defense products industries

Defense products

#### Defense-Related Balance of Payments Components

Transfers under U.S. military agency sales contracts—exports (BEA)

Direct defense expenditures-imports (BEA)

U.S. Government cash receipts associated with military sales contracts (BEA)

Some additional data are included in the tables though not presented in the charts. These include Defense Department military prime contract awards by procurement category (e.g., for aircraft, missiles and space systems, ships, weapons, and ammunitions), the operations component of Defense Department

gross obligations incurred, gross unpaid obligations outstanding, and net outlays and the procurement component of gross unpaid obligations outstanding.

#### **Description of Basic Data**

The Department of Defense compiles statistics on obligations, contract awards, personnel compensation, and outlays. The DOD obligations and outlays data are based on the Defense Department's monthly *Status of Funds* report which is developed from accounting data and is designed to provide information on the total status of Defense Department financing. Accounts included in this report are aggregated by appropriation categories including personnel costs, operations and maintenance, procurement, research and development, and construction. The *Status of Funds* report duplicates some obligations. That is, obligations of one government unit to another unit are not netted out.

The Defense Department's Contract Awards report covers the awarding of procurement contracts. These include obligations for operating and maintenance supplies, equipment and services, research and development, and construction in addition to the obligations for items that constitute the fiscal "procurement" category. The statistics are aggregated by commodity categories including aircraft, missile and space systems, ships, weapons, ammunition, electronics and communication equipment, fuels, and textiles and clothing. The Contract Awards report includes procurement for NASA, other nondefense agencies, and the Foreign Military Sales Program which are not included in the Status of Funds report.

The Census quarterly new orders, unfilled orders and shipments series for "aerospace industries" are based on reports of companies classified into the following industry categories:

Industry	SIC Code
Aircraft and parts	372
Guided missiles and space vehicles, completely assembled	1925

The Census and BLS data for "defense products industries" presented in this report cover companies and establishments¹ classified into the following industry categories in accordance with the Standard Industrial Classification Manual, 1967 edition, Executive Office of the President, Bureau of the Budget:

Industry	SIC Code
Ordnance and accessories	19
Communication equipment	366
Aircraft and parts	372

Establishments reporting to the BLS are classified into industries on the basis of their principal product or activity as determined from information on annual sales volume, which is collected each year on a supplement to the monthly report. The entire employment of an establishment making more than one product or engaging in more than one activity is included under the industry accounting for the largest percentage of the annual sales of that establishment.

The Census Bureau's monthly survey is based primarily on reports at the company level and the monthly estimates are benchmarked to the establishment data from the *Annual Survey* 

of Manufactures. Also, many of the large diversified companies file separate divisional reports monthly. Although the reports in the survey are also classified according to their principal product or activity, this difference in the organizational level from which reports are received results in firms being classified into different industries in the BLS and Census surveys and, consequently, limits somewhat the comparability of the data collected by these agencies. However, as we know from past studies in this area, some differences in industrial classification between BLS and Census data would remain even if reports came from the same organizational levels.

Both the Census and the BLS data include a significant amount of nondefense activities carried on by companies and establishments classified in the above industries. For example, the data cover the production of commercial as well as military aircraft. On the other hand, they exclude significant amounts of defense work carried on by companies and establishments classified in industries other than those listed above (e.g., the manufacture of military uniforms and the shipbuilding industry).

Census data for "defense products" are based on separate reports on defense work filed by large defense contractors in the ordnance, communications, complete aircraft, aircraft parts, and shipbuilding industries. Thus, they differ from the "defense products industries" data in that they include defense activity in the shipbuilding industry and exclude nondefense work in the other industries covered. Defense products data cover work for the Department of Defense and exclude contracts for the National Aeronautics and Space Administration and the Atomic Energy Commission.

The DOD data are not strictly comparable in coverage with either the BLS or the Census data since the Defense Department figures (1) cover products of industries not included in the defense products category; (2) generally do not include non-defense activities (except that some series, such as contract awards, include activities by the Department of Defense on behalf of nondefense agencies); and (3) do not cover intermediate activities such as those related to subcontracting and supplying of parts. Thus, the Census Bureau data for manufacturers' new orders and shipments of defense products industries, for example, differ in coverage from the DOD contract awards and net outlays series.

The Department of Defense data are not comparable with Federal Government purchases of goods and services for national defense or the Treasury Department obligations and outlays data since the BEA and Treasury data cover defense-related activities of other agencies such as the Atomic Energy Commission, the Selective Service System, and the Office of Emergency Planning.

Projects to improve the comparability of the data collected by the Bureau of the Census, the Bureau of Labor Statistics, and the Department of Defense and to improve the separation of defense and nondefense activity for the Census and BLS data are being undertaken by the statistical agencies under the leadership of the Interagency Committee mentioned earlier in this report.

 $<sup>^{\</sup>mathrm{I}}$ An establishment is a single physical location where business is conducted (e.g., a plant). A company often includes more than one establishment.

<sup>&</sup>lt;sup>2</sup>See the Bureau of the Census publication *Shipments of Defense-Oriented Industries*, Current Industrial Reports, Series MA-175, for annual estimates of shipments by industry to the Department of Defense, the National Aeronautics and Space Administration, and the Atomic Energy Commission. Included also are industries not covered by the "defense products industries" category.

# **6 SESA PROJECTS**

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**BUSINESS CONDITIONS DIGEST** A monthly report for analyzing economic fluctuations over a short span of years.

This report brings together approximately 600 economic time series in a form convenient for analysts whether their approach to the study of current business conditions and prospects is the national income model, the leading indicators, anticipations and intentions, or a combination of these. Other types of data such as foreign trade, Federal Government activities, and international series are included to facilitate a more complete analysis.

Data are presented in charts and tables. Appendixes provide historical data, series descriptions, seasonal adjustment factors, and measures of variability. A computer tape containing data for most of the series is available for purchase.

**DEFENSE INDICATORS** A monthly report for analyzing the current and prospective impact of defense activity on the national economy.

This report brings together the principal time series on defense activities which influence short-term changes in the national economy. These include series on obligations, contracts, orders, shipments, inventories, expenditures, employment, and earnings. The approximately 60 time series included are grouped in accordance with the time at which the activities they measure occur in the defense order-production-delivery process. Charts and analytical tables facilitate interpretation.

**LONG TERM ECONOMIC GROWTH** A report for the study of economic trends over a long span of years, 1860–1970.

This report has been developed from available statistics to provide a comprehensive, long-range view of the U.S. economy. It is a basic research document for economists, historians, investors, teachers, and students. It brings together under one cover, in meaningful and convenient form, the complete statistical basis for a study of long-term economic trends. A computer tape file of the time series included in the report is available for purchase.

COMPUTER PROGRAMS FOR TIME SERIES ANALYSIS The source statements for FORTRAN IV programs used by SESA in its analysis of time series are available on a single computer tape.

SEASONAL ADJUSTMENT PROGRAMS.—Two variants of the Census computer program for measuring and analyzing seasonal, trading-day, cyclical, and irregular fluctuations. They are particularly useful in analyzing economic fluctuations which take place within a year. The X-11 variant is used for adjusting monthly data and the X-11Q for quarterly data. These programs make additive as well as multiplicative adjustments and compute many summary and analytical measures.

DIFFUSION INDEX PROGRAM.—A computer program for computing diffusion indexes, cumulated diffusion indexes, and summary measures of the properties of each index.

**SURVEY OF CURRENT BUSINESS** A monthly report for analyzing current economic developments.

This report provides a useful combination of current data for more than 2,500 statistical series and significant articles analyzing economic developments. These data and analyses include such areas as the national income and product accounts, the balance of payments accounts, plant and equipment expenditures, regional personal income, and the input-output accounts.

**BUSINESS STATISTICS** A biennial reference volume containing statistical series reported currently in the Survey of Current Business.

This report provides historical data back to 1947 for nearly 2,500 time series. The series are accompanied by concise descriptions as to their composition, methods of compilation, comparability, revisions, and availability. Also listed are the names and addresses of organizations which provide the basic data for the series.

# defense indicators

January 1974 Series ES4 No. 74-1

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#### **Defense Indicators Price Increase**

With this issue, the subscription price of **Defense Indicators** is increasing to \$11.00 per year (\$2.75 additional for foreign mailing). The new single copy price is 95 cents.

The Government Printing Office handles the printing and distribution of Defense Indicators and other Government publications, and it alone establishes the public sales prices. It has set the higher prices to cover the increasing costs of its operations, including higher postage rates.

The Bureau of Economic Analysis prepares **Defense Indicators** but has no role in determining its price and receives no revenue from its sale.

#### Variability of Data

Seasonal variations dominate the movements of many time series, and adjustments for average seasonal fluctuations are often necessary to bring out the underlying trends of the series. These seasonal adjustments allow for the effects of repetitive intrayear variations resulting primarily from normal differences in weather conditions and from various institutional arrangements. An additional adjustment is sometimes necessary for series which contain considerable variation resulting from the number of working or trading days in each month. As used in this report, the term "seasonal adjustment" includes trading-day adjustments where they have been made.

Most of the series in this report are shown in seasonally adjusted form. For Defense Department and BLS series, unadjusted data are also shown since they are not readily available elsewhere. Current seasonal adjustment factors are shown in appendix A.

The effect of seasonal adjustment in reducing the month-to-month variation in the data can be seen in appendix B. There, the first two columns show the average month-to-month percent change (without regard to sign) in the data before and after seasonal adjustment. Some series still show very irregular month-to-month movements after adjustment for seasonal variation. The measures in appendix B also indicate the month-to-month variation in the irregular and short-term trend components of the series. For many series, irregular movements tend to dominate 1- or 2-month comparisons, and the underlying short-term trend becomes dominant in comparisons over longer spans. The "months for cyclical dominance" (MCD) measure estimates the span of months required for the short-term trend to dominate the irregular component. Series with an MCD of 4 or more are supplemented with a moving average (with the

number of terms equal to MCD) in the charts. Data for these moving averages are listed in the basic data tables.

#### **Guide to Charts and Tables**

Most series are plotted on a standard ratio scale so that equal percent changes cover the same vertical distance. For these series, an increase of 100 percent covers approximately 1 inch. Arithmetic scales are used for series with zero or negative data, series which could approach zero (e.g., average overtime hours and layoff rate), and series expressed in percent.

In general, monthly data are plotted with a solid line and quarterly data are represented by a solid line with quarterly plot points. Quarterly series are also identified with a "Q" after their titles. For series which include a moving average, a dashed line is used for the actual monthly data and a solid line for the moving average. (The moving average values are centered within the span of months they are computed from.) Exceptions to this scheme may be necessary for special situations. Data apply to the whole period except for series designated "EOM" (end of month) or "EOQ" (end of quarter). The number in the box at the right of each series indicates the latest month (Arabic) or quarter (Roman) plotted. Parallel lines across a series indicate a break in continuity (e.g., data not available or change in series definition).

Tables 1, 2, 3, and 4 present current data for the series shown in the charts, including the moving averages. They also include unadjusted data for some series and data for related series which are not plotted. Table A summarizes the most recent data and percent changes for many of the series in the report. Historical data are shown on an intermittent basis in appendix C. (The index indicates the appropriate issue for each series.)

The February issue of <u>DEFENSE INDICATORS</u> is scheduled for release on February 28.

#### Table A. Summary of Recent Data and Current Percent Changes for Principal Defense Indicators

(Preliminary and revised figures are not identified here but the user may consult tables 1, 2, 3, and 4 where such identification is given)

		Basic data									Percent	change		18
Series title	Unit of	Aver	age							050	41 170	010 (70	010.00	питре
COURS (TIO	measure	1972	1973	2d Q 1973	3d Q 1973	4th Q 1973	Oct. 1973	Nov. 1973	Dec. 1973	Oct. '73 to Nov. '73	Nov. '73 to Dec. '73	2d Q '73 to 3d Q '73	3d Q '73 to 4th Q '73	Series
GROSS NATIONAL PRODUCT AND NATIONAL DEFENSE PURCHASES														
00. Gross national product (BEA)	Ann. rate, bil. dol	1155.2	1288.2	1272.0	1304.5	1334.0						2.6	2.3	20
64. Federal Government purchases of goods and		74.4	74.2	74.2	74.2	74.0						0.0	-0.3	26
services, national defense (BEA)  13. National defense purchases as a percent of GNP (BEA) <sup>1</sup>	Percent	6.4	5.8	5.8	5.7	5.5		•••		•••	•••	-0.1	-0.2	61
ADVANCE INDICATORS OF DEFENSE ACTIVITY														
defense Dept. gross obligations incurred (DOD):	Ann. rate,													
	bil. dol	84.8	NA NA	81.9	85.5 16.7	NA NA	93.0	91.8	AN	-1.3 -5.1	NA NA	4.4	NA NA	61
621. Procurement	do	20.3												
Government for national defense (Treasury)	do	88.7	PIA	82.7	90.7	NA	107.8	91.1	NA:	-15.5	NA	9.7	NA	62
awards for work performed in the U.S. (DOD)	do	36.0	NA	34.3	34.6	NA	36.4	43.6	NA	19.8	NA	0.9	NA	62
<ol> <li>Defense Department gross unpaid obligations outstanding (DOD).</li> </ol>	Bil. dol., end of period	34.2	NA	35.3	36.1	NA	36.9	36.9	NA	0.0	NA	2.3	NA	64
648. Mfrs.' new orders, defense products (Census)	Ann. rate, bil. dol	20.7	21.3	23.9	18.5	21.2	22.7	25.8	15.0	13.7	-41.9	-22.6	14.6	64
350. Manufacturers' new orders from the U.S.													NA	65
Government, aerospace industries (Census)	do	15.2	NA	19.0	13.6	NA	***	***	•••	***	***	-28.4		
workers, defense products industries (BLS) <sup>1</sup> 654. Accessions, defense products industries	Hours	2.8	NA	3.0	3.0	NA.	3.0	3.1	:VA	0.1	NA	0.0	NA	65
(BLS)1.	employees	2.1	NA	2.2	2.3	NA	2.5	NA	NA	NA		0.1	NA	65
655. Layoffs, defense products industries (BLS) <sup>1</sup>	do	0.8	NA	0.7	0.6	NA.	0.6	NA	NA	NA		-0.1	NA	65
(BLS)¹@	Percent	1.0	NA	1.3	1.4	NA.	1.5	1.3	NA	-0.2	NA NA	0.1	NA	65
INTERMEDIATE AND FINAL INDICATORS OF DEFENSE ACTIVITY														
657. Output of defense and space equipment (FRB) 659. Mfrs.' inventories, defense products (Census)	1967=100 Bil. dol., end	77.9					80.1	79.9	80.6	-0.2			0.0	1
661. Mfrs.' unfilled orders, defense products (Census)	of period						20.9	5.5	21.1	2.9	-1.9		1.9	
664. Manufacturers' unfilled orders from the U.S. Government, aerospace industries (Census)	do	15.3	NA	16.3	15.7	NA						-3.7	NA	6
666. Defense Department progress payments out- standing (DOD) (0)	do	6.7	NA NA	7.0	7.1	NA						1.4	NA	6
Employment in defense products industries (BLS):							1,147	1,150	1,152			1		6
670. Total	Thousands do						607	606	610					
673. Index of aggregate weekly man-hours, defense products industries (BLS)		1	NA NA	68,1	68.1	NA	68.1	68.4	NA	0.	4 NA	0.0	NA NA	6
675. Index of aggregate weekly payrolls, production														
workers, defense products industries (BLS) Defense Department manpower (DOD): (1)			R.A	89.3	90.9	NA NA	92.5	92.7	N/A	0.	- NA	1.8	1 1	l°
677. Military	Thousands, end of period		2,202	2,253	2,232	2,202	2,229	2,218	2,202	-0.	5 -0.	-0.9	-1.3	6
678. Civilian							1,022		N/					
Defense Department net outlays (DDD): 680. Total, military functions and military	Ann. rate,													1
assistance. 682, Procurement	bil. dol do								74.					
683. Budget outlays for the national defense function														
(Treasury)	do	77.						84.2	N.					
688. Mfrs.' shipments, defense products (Census) 689. Manufacturers' shipments to the U.S. Government,	do	. 18.	19.	7 19.9	9 19.	19.7	20.5		19.	-5.	9 -0.	-3.0	2.1	
aerospace industries (Census)		13.	5 NA	14.8	B 14.	9 NA		***				0.7	7 NA	A 6
defense products (Census)		. 12.	4 12.5	12.4	4 12.	9 12.9	12.2	13.4	13.	2 9.	8 -1.	4.0	0.0	0 6
693. Ratio, manufacturers' inventories til shipments, defense products (Census)	do	. 3,	2 N	A 3.:	3 3.	4 NA	3.2	3.4	N	A 6.	2 N	A 3.0	) NA	A 6
DEFENSE-RELATED BALANCE OF PAYMENTS COMPONENTS														
546. Transfers under U.S. military agency sales contracts—exports (BEA) <sup>1</sup> .	Ann. rate, mil. dol	1,16	6 N	4 1,82	0 2,13	6 NA						310	6 N	A
547. Direct defense expenditures-imports (BEA) 1	do											90		
696, U.S. Government cash receipts associated with military sales contracts (BEA) <sup>1</sup>	do	1,39		A 2,18	0 2,59	6 N/	1					. 41	6 N	A

NOTE: This table is presented as a convenient summary of the current data for many of the indicators in this report. In many cases, data shown here are rounded to fewer digits or are in different units than those shown in tables 1, 2, 3, and 4. Where available, annual figures are those published by the source agencies; otherwise they (and the quarterly figures for monthly series) are averages or totals of the data as shown in the data tables. Series are seasonally adjusted except for those indicated by ③, which appear to contain no seasonal movement.

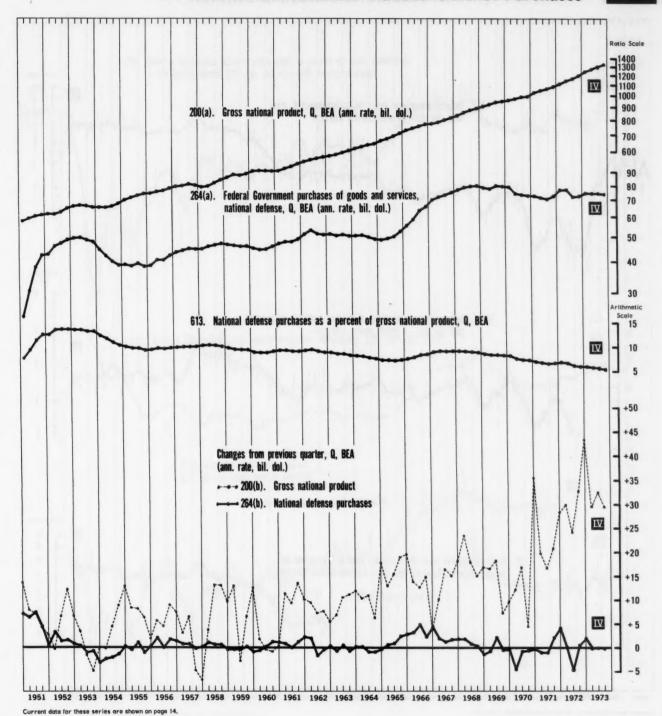
NA = not available.

\*Difference = rather than percent changes are shown for this series.

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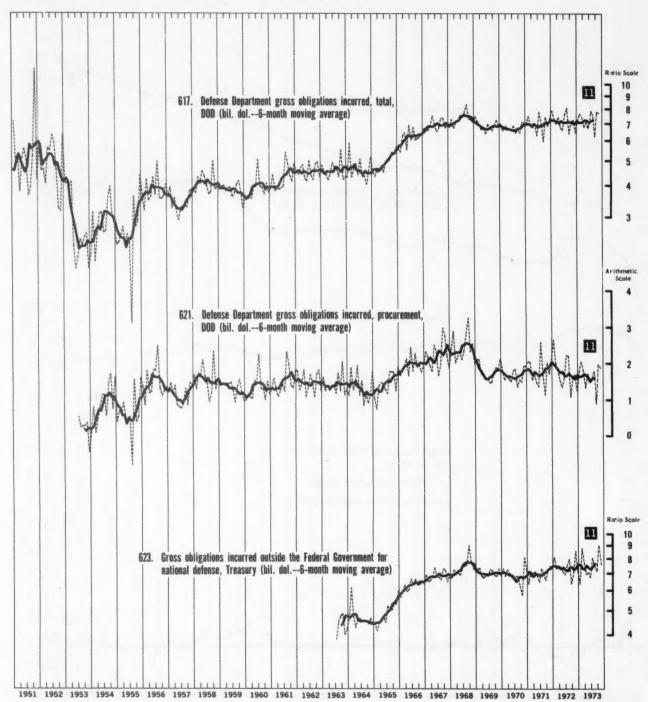
# CHART 1

### **Gross National Product and National Defense Purchases**

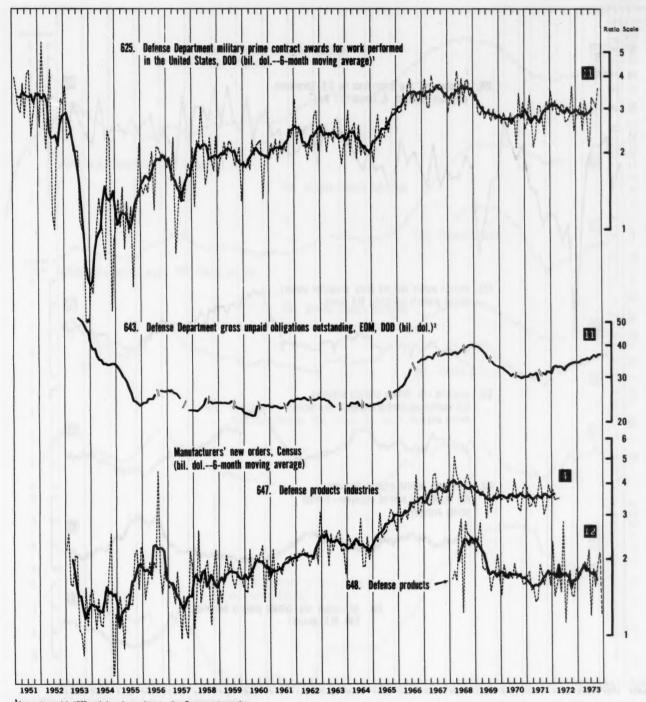




# **Advance Indicators of Defense Activity**







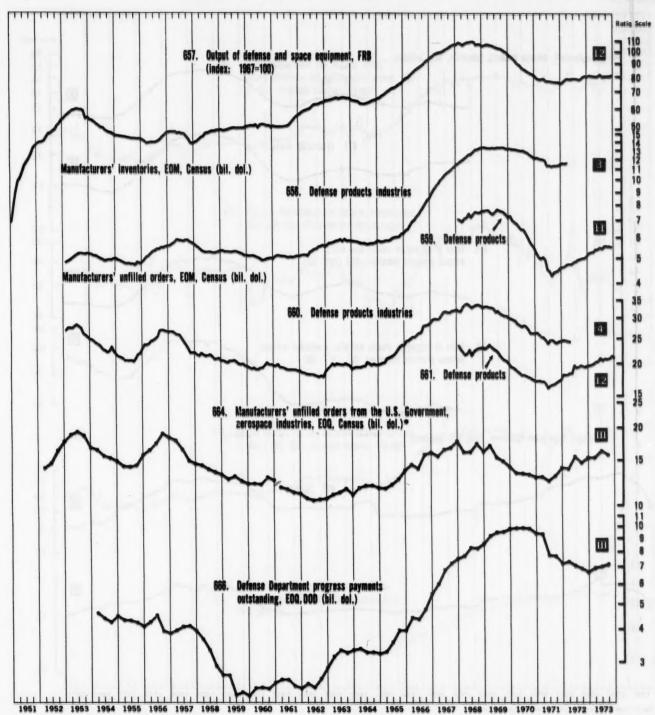
<sup>&</sup>lt;sup>1</sup>Data prior to July 1955 exclude orders written to other Government agencies, <sup>2</sup>Data for the following months not available: July of 1956-71; August of 1956-57 and 1963-66; September of 1957, 1963, and 1965; and October and November of 1963, \*\*Contract awards for November 1953--2656 million; December 1953--5390 million, Current data for these series are shown on pages 16, 19 and 20.





\*Data prior to 1961 include orders from non-Government customers. Current data for these series are shown an pages 20 and 21.

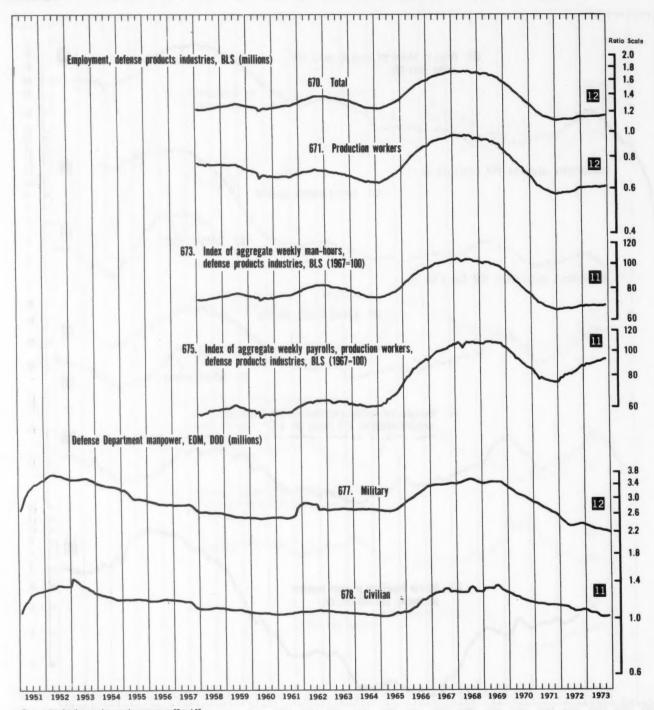




\*Data prior to 1961 include orders from non-Government customers.

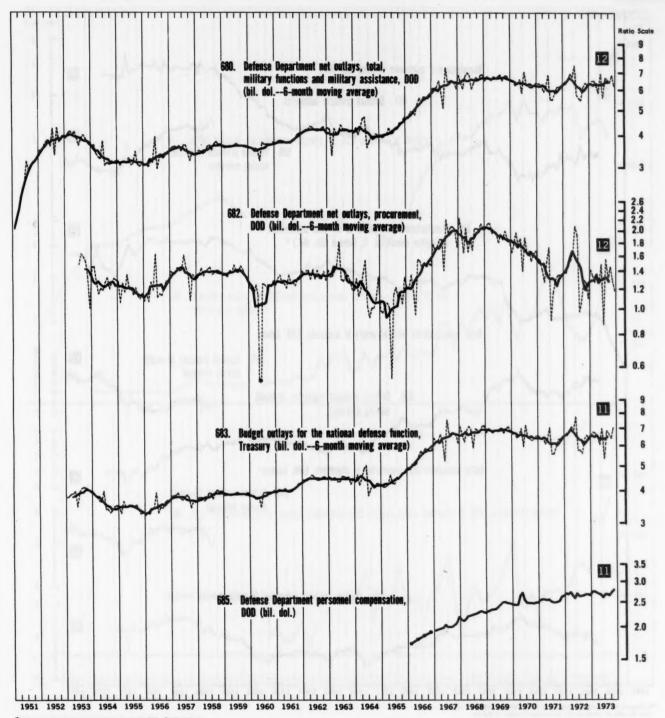
Current data for these series are shown on page 22.





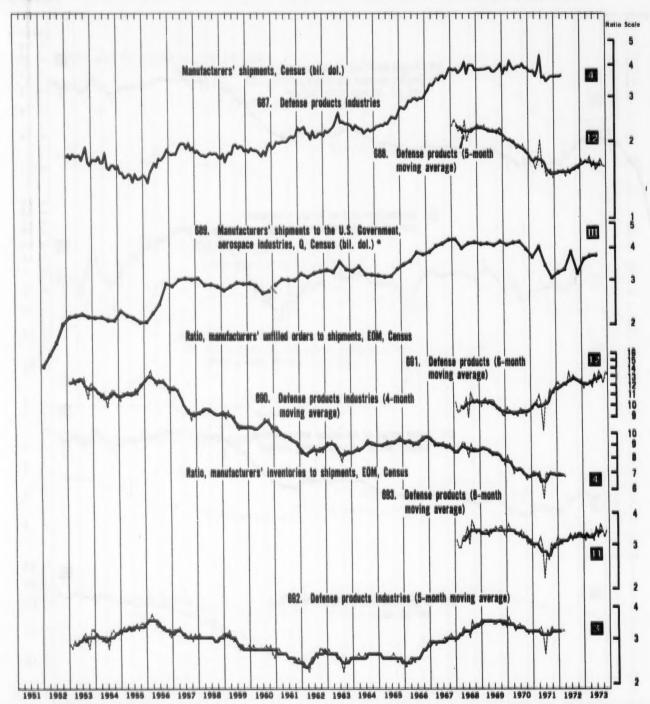
# CHART 3

# Intermediate and Final Indicators of Defense Activity--Continued



<sup>\*</sup>Net expenditures for procurement, June 1960.--\$245 million, Current data for these series are shown on pages 24 and 25,

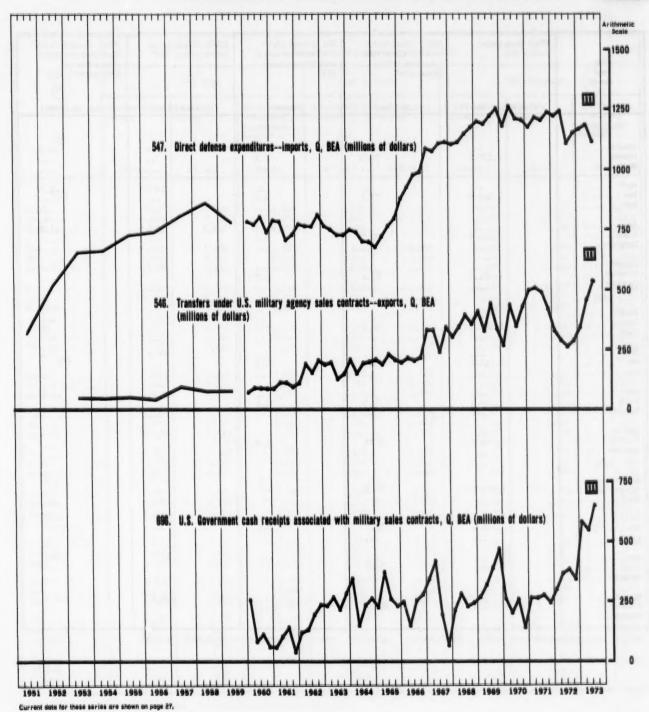




\*Date prior to 1961 include shipments to non-Government customers. Current date for these series are shown on pages 25 and 26.



# **Defense-Related Balance of Payments Components**





# **Gross National Product and National Defense Purchases**

Year and month	200(a). Gross national product, BEA*	264(a). Federal Govern- ment purchases of goods and services, national defense, BEA*	613. National defense purchases as a percent of gross national product, BEA*	200(b). Change in gross national product, BEA*	264(b). Change in Federal Government purchases of goods and services, national defense, BEA*	
	(Ann. rate, bil. dol.)	(Ann. rate, bil. dol.)	(Percent)	(Ann. rate, bil. dol.)	(Ann. rate, bil. dol.)	
1971	J. A. A. A. A.					
January				35.4	-0.3	
February	1,027.2	72.3	7.0			
March		***	•••	•••	•••	
April				19.7	-1.0	
May	1,046.9	71.3	6.8	-/		
June		***	•••			
					100	
July	7 0/0 5	70.2	6.6	16.6	-1.0	
August	1,063.5	70.3		•••		
ooptombor	***	***	***	• • • • • • • • • • • • • • • • • • • •		
October				20.7	2.1	
November	1,084.2	72.4	6.7	•••	•••	
December			•••		•••	
1972					·	
January				28.3	4.1	
February	1,112.5	76.5	6.9	20.7		
March						
				29.9	0.1	
April		76.6	6.7	****		
June		10.0				
July				24.1	-4.7	
August		71.9	6.2	•••	•••	
September	***	***	•••	***	•••	
October				32.7	0.5	
November		72.4	6.0			
December						
1973						
January			•••	43.3	1.9	
February		74.3	6.0	•••		
March			***	•••		
				29.5	-0.1	
April		74.2	5.8			
June					•••	
JUIN					0.0	
July				32.5	0.0	
August	1,304.5	74.2	5.7	•••		
September		***	•••			
October	pl,334.0	p74.0	p5.5	p29.5	p-0.2	

Note: All date on this page are seasonally adjusted. NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See page 5.)



# Advance Indicators of Defense Activity

	1	Y No.	Defen	se Department gross	obligations incurred	DOD			
Year		617. Total		619. O <sub>i</sub>	perations	621. Procurement			
and month	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*	
Light Day	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	
1971									
January	6,935	6,909	6,916	4,249	4,254	1,946	2,038	1,808	
	6,498	7,434	6,970	3,629	4,152	1,672	2,010	1,846	
	6,163	6, <b>8</b> 10	6,950	3,933	4,207	1,245	1,528	1,772	
April	6,581	6,694	6,829	4,340	4,267	1,425	1,686	1,676	
	5,786	6,912	6,963	3,834	4,109	1,103	1,457	1,766	
	8,605	6,213	6,890	4,808	4,050	2,504	1,340	1,710	
July	8,279	7,716	6,738	4,843	4,265	1,518	2,577	1,64;	
	6,754	6,997	6,846	4,146	4,122	1,361	1,672	1,690	
	6,374	5,895	6,826	3,953	4,031	1,665	1,127	1,730	
October	7,497	7,346	6,996	4,454	4,252	2,183	2,001	1,86	
	6,153	6,791	7,014	3,905	4,225	1,544	1,700	1,87	
	7,137	7,229	7,054	3,987	4,257	2,209	2,096	1,92	
January February March	7,772	7,825	7,228	4,623	4,653	2,534	2,634	2,04	
	6,542	7,239	7,190	3,990	4,381	1,667	1,994	1,96	
	6,445	6,935	7,179	4,170	4,371	1,470	1,817	1,89	
April	6,455	7,122	7,073	4,437	4,429	1,278	1,518	1,81	
	5,813	6,724	7,024	4,084	4,268	993	1,328	1,74	
	9,429	6,595	7,154	5,110	4,311	2,975	1,597	1,77	
July	7,769	7,528	7,051	4,933	4,473	1,310	2,213	1,65	
	7,810	8,018	7,043	4,559	4,404	1,767	2,184	1,66	
	6,899	6,317	7,118	4,345	4,498	1,582	1,068	1,72	
October November December	7,178	7,076	7,089	4,647	4,441	1,757	1,610	1,66	
	6,489	7,172	7,024	4,193	4,478	1,556	1,680	1,59	
	6,066	6,422	6,955	4,027	4,441	1,456	1,240	1,56	
January February March	7,414	7,141	7,129	4,688	4,556	1,815	1,766	1,68	
	6,691	7,603	7,074	4,097	4,671	1,785	2,042	1,63	
	6,716	7,361	7,054	4,174	4,404	1,435	1,787	1,64	
April		6,743 7,052 6,690	7,098 7,208 7,180	4,522 4,195 5,122	4,462 4,324 4,435	1,028 1,171 2,871	1,316 1,720 1,587	1,70 1,66 1,62	
July	7,505	7,799 7,438 6,127	6,975 7,142 7,241	5,334 4,634 4,201	4,734 4,534 4,424	1,019 1,393 1,168	1,563 1,800 820	1,46 1,57 1,59	
October November December	6,917	7,746 7,646 (NA)	(NA)	5,024 4,346 (NA)	4,775 4,642 (NA)	2,105 1,714 (NA)	1,951 1,851 (NA)	(NA	

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See page 6.)



	623. Gross oblige outside the Feder	al Govern-		Defense Department military prime contract awards for work performed in the United States, DOD									
Year	ment for national Treasury	defense,		625. Total		626. /	Aircraft		e and space ems				
and month	Seasonally adjusted*	Moving average of sessonally adjusted data— 6-month*	Not sessonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted				
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)				
1971													
January	6,331 7,053 6,963	6,878 7,104 6,901	2,215 2,271 2,871	2,508 2,619 3,398	2,986 2,867 2,762	553 328 797	1,804	383 223 269	1,040				
April	7,074 6,831 6,454	6,784 6,941 6,927	2,187 1,778 4,100	2,751 2,112 2,367	2,626 2,722 2,798	390 339 902	1,393	230 199 349	841				
July	7,270 6,969 6,536	6,856 6,876 6,978	3,208 3,016 3,134	3,082 3,078 2,769	2,693 2,633 2,816	796 1,061 722	2,701	506 433 666	1,26				
October	7,193 7,446 7,331	7,124 7,258 7,307	2,715 2,532 3,152	2,392 3,209 3,016	2,999	627 597 564	1,894	530 279 472	1,28				
January February Mareh	8,070 7,267 7,467	7,462 7,490 7,431	3,210 2,499 2,871	3,531 2,971 3,233	3,138	634 469 726	1,915	359 410 473	1,55				
April	7,362 7,090 6, <b>93</b> 0	7,364 7,269 7,382	2,167 2,204 5,574	2,866 2,848 3,126	3,023	471 367 1,586	2,236	257 209 481	1,10				
July		7,195 7,136 7,381	3,415 2,593 2,815	3,093 2,673 2,704	2,881	955 529 523	1,991	681 326 481	1,16				
October November December	8,558	7,413 7,220 7,358	3,008 2,997 2,611	2,840 3,682 2,459	2,864	395 427 612	1,505	516 491 359	1,27				
January February March	8,775	7,565	2,578 2,418 2,841	2,82/ 2,875 3,185	2,916	728 326 721	1,921	377 297 504	1,41				
April	7,052	p7,533	2,489	2,469 3,231 2,861	2,793	122 866 1,243	1,997	233 129 349	88				
July	7,477	p7,224 p7,567 p7,657	3,224	2,129 3,31 3,20	2,962	396 611 867	1,811	207 921 435	1,22				
October	7,593		3,198 2,967 (NA)	3,033 3,636 (NA)	2	939 686 (NA)	(ÑĂ)	368 283 (NA)	('nA				

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See pages 6 and 7.)



		1	Defense Department mili in the U	tary prime contract awa nited States, DOD—Con	ards for work performed stinued				
Van	628. Ships, not seasonally adjusted	629. Weapons	and ammunition	630. Electronic en	nd communications oment	631. Combat vehicles			
Year and month	seasurary adjusted	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted		
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)		
1971						16			
enuaryebruary	88 435 498	190 272 177	709	252 230 255	856	17 27 28	75		
April	149 54 140	206 128 402	619	227 174 552	683	37 18 71	98		
July	148 147	10 79 282	596	252 367 364	1,236	5 4 5	14		
Östeber	24 100	147 428 411	769	212 246 278	744	30 59 14	122		
1972 January	851 132	257 250	601	307 324	1,083	13 7 13	42		
April	. 165 . 59 . 89	225 235 225 448	762	347 248 272 731	959	37 17 72	103		
July	160 370	41 82 166	476	234 215 298	931	6 18 140	143		
October	276 266	292 269 236	620	302 401 228	937	15 40 33	10/		
January February March	378	207 226 195		214 215 420	939	14	4		
April	82 78	150 184 566	755	237 351 654		54	6		
July	337 220	81	200	131 354 313	990	24	. 8		
October	161	100	(NA)	248 392 (NA)	(NA)	116 21 (NA)	(NA		

NA=not available; p=preliminary; r=revised.



			Defense Depar	tment military prime in the United State	contract awards for s, DOD-Continued	work performed		
Year	632. Othe	r hard goods	633. Sc	oft goods		nstruction	635.	Services
and month	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1971							(with dolly	(MIII. GOI.)
January	93		89		702			
February	169	402	96	409	103	***	93	
March	112		122	409	65 108	320	136 148	57
April	128		722		- 4-			
May	101	353	132 125	***	160		173	
June	222	•••	158	536	165 298	342	143 372	74
July	91		600					
August	94	401	607	***	40	***	540	
September	90	401	126 113	577	73 123	347	274 236	74
October	184		06					
November	113	383	96	***	80		399	
December	133		118	529	41	388	198	75
1972	200	***	327	***	127	•••	172	
January	92		175					
February	135	390	115 121	***	74		135	
March	135	•••	125	492	177	457	148 143	65
April	132		100					
May	169	552	120	***	147	• • • •	118	
June	399	•••	155 141	542	174 470	445	163 440	77
July	62		515					
August	106	408	545 179	***	138	***	347	
September	111	406	127	575	103 64	455	325 167	60
October	107		111		-			**
November	111	293	85	510	77	***	571	
December	115	•••	358	540	88 69	338	334 155	1,00
								• •
anuary	140		2.12					
ebruary	141	465	141	***	103		154	
March	130	405	112 102	490	205 131	483	140 158	696
pril	145		110					• • •
lay	128	107	113	• • •	153		197	
une	393	497	97 158	482	1 <i>5</i> 1 493	451	137	83/
uly	65		/80					•••
lugust	117	427	489 177	574	34	:::	341	•••
eptember	106	•••	186		34 111 101	368	265 252	63:
October	133		751					
lovember	142	(NA)	154 235	(374)	147		388	
ecember	(NA)	(*****)	(NA)	(NA)	54 (NA)	(NA)	161 (NA)	(NA)

NA=not available; p=preliminary; r=revised.



	Defense Depart		contract awards for s, DOD-Continued	work performed		act awards for		ment gross unpaid tstanding, DOD	
Year	636. Contracts	under \$10,000		nal and nonprofit utions	States, DOD	e the United	643. Total		
and month	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted*	
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	
1971									
January	293		61	***	123	•••	30,905	30,183	
February	237	861	53	181	93	484	31,098	30,851	
March	303		54		188		30,144	30,541	
April	327	***	28	***	98		29,846	30,737	
May	299	898	33	161	64	484	29,170	31,098	
June	536	•••	98		262		28,554	29,07	
hulse	149	1000	64		509		(MA)	(27.4)	
July	297	958	61	164	197	505	31,286	(NA	
September	305	1	31		96	525		31,069	
September	300	•••	31		90	•••	31,376	30,67	
October	297		89		123		32,619	31,54	
November	269	882	84	234	107	437	32,110	31,45	
December	275		96	2.54	105	457	31,388	31,04	
1972	~">		1		100		)1,,000	31,040	
January	327	***	46		169		33,734	32,879	
February	289	967	37	155	130	492	33,554	33,189	
March	317	•••	58	•••	106	•••	32,480	32,84	
April	300		43		82		32,152	32.04	
May	318	881	46	187	95	536	30,675	33,04 32,73	
June	516	1	96		290		31,347	31,95	
Julie	710		,0		270		21,341	31,73	
July	159		87		368		32,546	32,97	
August	279	986	61	240	278	545	33,684	33,45	
September	348		79		195		34,563	33,85	
	-						74,,,,,	,,,,,	
October	277		69		142		35,251	34,12	
November	313	888	172	243	104	455	35,009	34,28	
December			43		99		34,601	34,22	
1973					1		1	24,4	
	6.7				1		05.3-		
January	341	7 070	75	***	156		35,171	34,24	
February	320	1,019	45	189	151	527	35,287	34,86	
March	334	•••	50	***	125	•••	34,766	35,11	
April	356		54		213		21 207	25 27	
May		968		166		4:0	34,297	35,213	
June			34		83	645	33,409	35,693	
	331	***	76	•••	264	•••	34,621	35,32	
July	225		61		368		e35,500	e35,968	
August	210	1,014	123	287	244	497	37,069	36,81	
September		1,014	86	201	159	477	36,829	36,10	
				1					
October			85		194		38,039	36,859	
November		(NA)	87	(NA)	240	(NA)	37,680	36,90	
December	(NA)		(NA)		(NA)	()	(NA)	(NA)	

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See page 7.)



	Defense De	epartment gross un DOD-		utstanding,		Manufacturers' no	ew orders, Census		650. Manufac- turers' new
Vear	644. Op	perations	645. Procurement			nse products estries	648. Defer	se products	orders from the U.S. Govern- ment, aerospace
and month	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data—6-month*	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*	industries, Census, seasonally adjusted*
	(Mil. dol.)	(Mil. del.)	(Mil. dol.)	(Mil. del.)	(Mil. dol.)	(Mil. del.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1971									
January February March	5,072 4,791 4,479	4,785 4,781 4,685	18,855 18,924 18,411	18,395 18,553 18,485	3,848 3,247 3,275	3,546 3,608 3,511	1,713 1,791 1,512	1,661 1,624 1,585	4,046
April	4,534 4,342 4,077	4,823 4,824 4,545	18,268 17,857 18,522	18,660 18,640 18,266	3,496 3,233 3,628	3,454 3,521 3,585	1,534 1,359 1,395	1,551 1,583 1,577	3,548
July	(NA) 5,186 5,092	(NA) 4,944 4,850	(NA) 18,783 19,059	(NA) 19,265 19,040	4,246 3,634 3,018	3,542 3,501 3,620	1,905 1,755 1,587	1,589 1,625 1,700	3,843
October	5,586 5,366 4,933	5,019 5,053 4,928	19,797 19,056 20,572	19,659 18,886 20,208	3,249 3,947 3,687	3,630 3,554 3,524	1,752 1,809 1,577	1,731 1,803 1,748	3,73
January February March	5,303 5,021 4,635	4,998 5,011 4,864	21,702 21,877 21,637	21,131 21,364 21,680	3,790 3,452 3,482	3,601 p3,642 (NA)	2,339 1,426 1,582	1,747 1,749 1,695	3,39
April	4,439 3,891 4,211	4,727 4,323 4,700	21,360 20,672 20,982	21,774 21,578 20,692	p3,497 (NA)		1,763 1,486 2,818	1,902 1,700 1,734	4,99
July	4,739 5,043 5,349	4,881 4,807 5,104	20,570 20,813 21,237	20,820 21,347 21,280			1,123 1,634 1,803	1,771 1,717 1,707	3,26
October	5,845 5,671 5,438	5,242 5,335 5,433	21,645 21,836 22,023	21,537 21,663 21,634			1,437 1,425 1,824	1,541 1,647 1,662	3,50
January February March	5,741 5,589 5,273	5,406 5,578 5,539	22,326 22,721 22,469	21,718 22,145 22,491			1,760 1,725 1,889	1,677 1,762 1,833	3,94
April	5,424 5,227 5,301	5,776 5,808 5,916	22,044 21,753 22,806	22,448 22,767 22,513			1,952 1,849 2,175	1,892 1,798 1,820	r4,74
July	6,200 6,754 6,719	e6,385 6,439 6,417	e22,100 22,432 22,195	e22,391 23,031 22,284			1,199 1,855 1,565	1,766 1,756 rl,807	p3,38
October November December	7,519 7,193 (NA)	6,737 6,767 (NA)	22,679 22,877 (NA)	22,589 22,695 (NA)			1,893 r2,154 p1,254	p1,653	(NA

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See pages 7 and 8.)



	hours, product	weekly overtime ion workers, de- industries, BLS	654. Acc	ession rate, defens industries, BLS	e products	655. La	yoff rate, defense industries, BLS	products	656. Job vacancy rate, defense prod-
Year and month		Seasonally adjusted*	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data— 4-month*	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data— 4-month*	ucts industries BLS, not seasonally adjusted*
	(Hours)	(Hours)	(Per 100 employees)	(Per 100 employees)	(Per 100 employees)	(Per 100 employees)	(Per 100 employees)	(Per 100 employees)	(Percent)
1971									
January	2.3 2.0 2.1	2.2	1.7 1.3 1.5	1.8 1.6 1.6	1.7 1.7 1.7	2.4 2.1 2.2	2,1 1,9 2,0	2.0 2.0 2.0	0.4
April	1.8 1.9 2.2	2.1 2.2 2.2	1,5 1,7 2,3	1.7 1.8 1.4	1.7 1.6 1.7	2.4 1.4 1.2	2.3 1.6 1.4	1.9 1.8 1.7	0.4
July	1.9 2.4 2.6	2.2 2.4 2.4	1.9 2.1 1.9	1.8 1.8 1.7	1.7 1.6 1.7	1.1 1.1 1.3	1.3 1.2 1.4	1.4 1.3 1.3	0.6
October	2.6 2.6 2.8	2.5 2.3 2.4	1.7 1.6 1.2	1,6 1,9 1,8	1.7 1.8 1.8	1.4 1.3 1.0	1.4 1.3 1.2	1.3 1.3 1.2	0,6
January February March	2.4 2.5 2.7	2.3 2.7 2.8	1.8 1.7 1.9	1,9 1,9 2,0	1.9 1.9 2.0	1.2 1.2 1.0	0,9 1.0 0,7	1.1 0.9 0.8	0.1
April	2.5 2.4 2.8	2.8 2.7 2.8	1.9 2.2 2.5	2.1 2.3 1.6	2.1 2.0 2.0	0.9 0.7 0.6	0,8	0,8 0,8 0,8	0,1 1,0
July	2.4 2.7 3.2	2.7 2.7 3.0	2.2 2.6 2.5	2.1 2.3 2.3	2,1 2,1 2,2	0.6 0.6 0.6	0.8 0.7 0.7	0.8 0.8 0.7	1,0 1,0 1,0
October	3.0 3.1 3.4	2.8 2.8 2.9	2.4 1.9 1.5	2.4 2.2 2.1	2.3 2.2 2.3	0.6 0.6 0.5	0.6 0.6 0.7	0,6 0,6 0,6	1, 1,
January February March	2.9 3.1 2.9	2.8 3.3 3.0	2.5 2.0 2.0	2.6 2.2 2.1	2.3 2.2 2.3	0,8 0,7 0,7	0.4	0.5 0.5 0.4	1.3 1.3 1.3
April	2.8 2.9 2.8	3.1 3.2 2.8	2.0 2.2 2.9	2.2 2.3 2.0	2.2 2.2 2.2	0.6 0.5 0.5	0.5 0.7 0.8	0.5 0.6 0.7	1.3
July	2.7 2.8 3.4	3.0 2.8 3.2	2.5 2.6 2.4	2.4 2.3 2.2	2,2 2,2 2,4	0.6 0.5 0.4	0.8 0.6 0.5	0.7 0.7 0.6	1.4
October	p3.4	r3.0 p3.1 (NA)	2.5 (NA)	2.5 (NA)	(NA)	0.6 (NA)	0,6 (NA)	(NA)	pl.s (NA)

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See page 8.)



	657. Output of defense and space equip-		rs' inventories, nsus	Census turers' unfilled Department products 9. Defense dects, products indusproducts, sonally tries, seasonal- seasonally tries, seasonal- seasonally tries, seasonal- seasonally seasonal- seasonally tries, seasonal- seasonally tries, seasonal- seasonally seasonal- seasonally tries, seasonal- seasonally seasonal- seasonally seasonal- seasonally seasonal- seasonally seasonal-	670. Employ products indus	ment in defense stries, total, BLS			
Year and month	ment, season- ally adjusted, FRB*	658. Defense products industries, seasonally adjusted*	659. Defense products, seasonally adjusted*	products indus- tries, seasonal-	products, seasonally	the U.S. Gov- ernment, aero- space indus- tries, season- ally adjusted,	payments outstanding, not seasonally adjusted,	Not season- ally adjusted	Seasonally adjusted*
	(Index: 1967=100)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Thous.)	(Thous.)
1971									,
January	80.0	12,122	5,185	26,171	16,996			1,267	1,26
February	78.3	12,021	5,017	25,678	17,096			1,240	7 22
March	77.6	11,937	4,942	25,182	16,957	12,891	9,313	1,212	1,23
April	777	11 000	1						
	77.9	11,922	5,016	25,084	16,939	***	***	1,183	1,19
May June	78.2	11,805	4,907	24,497	16,621	***	***	1,170	1,19
June	76.7	11,273	4,492	23,787	15,998	12,431	7,723	1,160	1,16
July	76.3	11,308	4,427	24,486	16,325			1,144	1,14
August	76.3	11,191	4,243	24,535	16,443			1,137	1,14
September	76.0	11,295	4,387	24,122	16,573	13,013	7,669	1,139	1,13
October	75.7	11,277	4,418	23,862	16,813			7 700	
November	75.9	11,302	4,463	24,223	17,080	•••	• • •	1,130	1,12
December	75.6	11,430	4,585	24,325	17,219	13,997	7,181	1,124	1,11
1972			4,,00	~4,5~5	11,217	15,771	7,101	1,114	1,11
January	74.8	11,555	4,594	2/ 5/7	3.0.000				
February	76.0	11,473	4,627	24,547	18,080	•••	•••	1,108	1,10
March	77.6	11,572	4,706	24,298	17,982	13,871	7,297	1,109	1,10
April	78.1	(NA)				,	.,		
May	77.7	(NA)	4,720	p24,172	18,288		•••	1,109	1,11
June	78.1		4,711	(NA)	18,243		***	1,109	1,11
Julie	70.1		4,802		19,607	15,441	7,043	1,113	1,11
July	78.3		4,831		19,174			1,113	1,11
August	78.1		4,911		19,320			1,114	1,11
September	77.6		4,937		19,572	14,628	6,866	1,125	1,11
October	77.9		4,978		19,436			3 303	
November	79.6		4,988		19,289		•••	1,131	1,12
December	80.1		5,087		19,553	15,322	6,668	1,142	1,13
1973			3,007		17,000	1,,,,,,,,,	0,000	1,146	1,14
January	79.8	120	5 210		10 675			3 345	
February	80.6		5,210 5,248		19,615 19,710		•••	1,145	1,14
March	80.1		5,266		19,934	15,303	6,942	1,143	1,1/
Anril							0,74		
April	80.0		5,384		20,246 20,350			1,137	1,14
June	79.7		5,384		20,350			1,135	1,14
Juille	80.1		5,477		20,944	r16,322	7,026	1,142	1,14
July	81.1		5,434		20,470			1,141	1,14
August	79.7		5,555		20,772			1,142	1,1
September	79.8		5,528		20,729	pl5,695	7,139	1,148	1,1
October	r80.1		5,531		20,912				
November	79.9		5,508		r21,457		***	r1,150	1,1/
December	p80.6		(NA)			(NA)	(22.4)	r1,154	r1,15
	100.0		(NA)		p21,118	(NA)	(NA)	pl,156	pl,1

NA=not available; p=preliminary; r=revised, \*Indicates series shown in charts. (See pages 9 and 10.)

# TABLE 3

# Intermediate and Final Indicators of Defense Activity--Continued

	products indust	nent in defense ries, production rs, BLS		iggregate weekly fense products ies, BLS	rolls, production	pregate weekly pay- workers, defense dustries, BLS	Defense Departme	nt manpower, DOI
Year and month	Not seasonally adjusted	Seasonally adjusted*	Not seasonally adjusted	Seasonally adjusted*	Not seasonally adjusted	Seasonally adjusted*	677. Military, not seasonally adjusted*	678. Civilian, not seasonally adjusted*
÷ (	(Thous.)	(Thous.)	(1967=100)	(1967=100)	(1967=100)	(1967=100)	(Thous.)	(Thous.)
1971								
January	667	664	75.0	74.8	84.6	83.9	2,861	1,146
February	650	649	72.6	72.8	80.8	81.2	2,840	1,143
March	629	630	71.6	71.6	79.6	79.6	2,802	1,142
April	608	613	69.3	69.9	75.6	76.9	2,770	1,141
May	605	611	69.0	69.6	76.9	78.1	2,737	1,136
June	598	602	68.6	68.9	76.1	77.1	2,715	1,127
July	589	593	67.2	67.8	74.3	76.3	2,685	1,129
August	585	588	67.0	67.4	75.1	76.1	2,657	1,132
September	589	584	67.3	67.0	76.3	75.5	2,627	1,130
Coptonia Control	,,,	1	07.5	01.0	10.5	10.0	2,027	1,100
October	581	578	66.8	66.5	75.9	75.4	2,608	1,128
November	579	574	66.9	66.2	76.7	74.9	2,579	1,125
December	574	570	66.6	65.6	77.9	75.0	2,519	1,122
1972						1		1
	570	567	65.7	65 5	75 0	75.2	2 162	1 110
January	573	572	65.8	65.5	75.8	77.9	2,462	1,119
February	571	572	65.9	65.9	78.2	78.2	2,385	1,112
mutun	7/1	112	03.9	03.9	10.2	10.2	2,,005	1,112
April	572	577	65.9	66.4	78.7	80.1	2,341	1,107
May	571	577	65.8	66.4	78.7	79.9	2,319	1,090
June	575	578	66.3	66.6	79.9	81.0	2,323	1,083
					1			
July	575	578	65.7	66.3	78.5	80.7	2,332	1,068
August	578	581	66.1	66.5	80.8	81.9	2,344	1,073
September	587	582	67.1	66.8	83.7	82.8	2,356	1,071
October	592	589	67.4	67.1	84.6	84.1	2,371	1,081
November	604	599	68.4	67.7	88.0	86.0	2,370	1,083
December	608	604	68.9	67.9	90.6	87.2	2,348	1,082
1973		554		0	70.0	01.2	2,740	1,002
				-				1
January	606	602	67.8	67.6	87.2	86.6	2,334	1,073
February	606	604	68.1	68.3	88.2	88.6	2,314	1,057
March	603	605	67.9	67.9	88.3	88.3	2,291	1,051
Anril	601	606	67.4	68.0	87.2	88.7	2,274	1,051
April	599	605	67.6	68.2	88.0	89.3	2,256	1,051
June	603	606	67.9	68.2	88.7	89.8	2,253	1,031
					1			
July	603	607	67.4	68.1	88.1	90.5	2,251	1,019
August	601	604	67.6	68.0	89.5	90.7	2,237	1,022
September		603	68.6	68.2	92.6	91.6	2,232	1,019
-								
October		r607	68.4	r68.1	r93.0	r92.5	2,227	1.022
November		r606	p69.1	p68.4	p94.9	p92.7	2,218	1,022
December	p614	p610	(NA)	(NA)	(NA)	(NA)	p2,202	(NA)

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See page 10.)



				Defense Departmen	nt net outlays, DOD						
	680. Total	, military functions a assistance	and military	681. Op	perations	682. Procurement					
Year and month			Moving average of seasonally adjusted data— 6-month*	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*			
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)			
1971											
January	5,985 5,813 6,508	6,316 6,280 6,225	6,218 6,178 6,178	3,687 3,685 3,954	3,812 3,943 4,028	1,440 1,423 1,549	1,553 1,532 1,405	1,550 1,500 1,488			
April	6,131 5,838 7,889	5,853 6,095 6,812	6,264 6,122 5,981	4,031 3,745 4,812	3,905 3,861 3,907	1,343 1,346 1,878	1,265 1,501 1,718	1,496 1,38' 1,32			
July	5,001 5,441 5,840	5,468 5,431 5,767	5,904 5,947 5,948	3,632 3,710 3,825	4,011 3,718 3,803	895 1,143 1,313	901 1,155 1,282	1,30 1,31 1,29			
October	5,943 5,972 6,498	6,110 6,103 6,198	5,846 5,982 6,125	3,845 3,877 4,188	3,915 3,992 4,063	1,317 1,322 1,366	1,335 1,348 1,335	1,22 1,30 1,34			
1972  January  February  March	5,973 6,128 6,944	6,285 6,285 6,527	6,251 6,379 6,476	3,971 4,013 4,307	4,199 4,168 4,286	1,276 1,367 1,666	1,379 1,372 1,485	1,37 1,40 1,45			
April	6,539 6,911 8,769	6,876 6,682 7,431	6,681 6,583 6,457	4,294 4,535 4,271	4,353 4,459 3,468	1,456 1,621 2,390	1,533 1,651 2,080	1,58 1,67 1,60			
July	4,987 5,679 5,212	5,695 5,530 5,416	6,272 6,146 6,091	3,972 3,928 3,805	4,489 3,824 3,886	1,675 975 1,072	1,917 972 1,073	1,53 1,49 1,43			
October	6,313	6,120 6,355 6,233	5,892 5,989 6,144	4,084	4,017 4,082 4,089	1,306 1,254 1,084	1,286 1,262 1,096	1,18			
January	6,054	6,458	6,333	3,988	4,145 4,223 4,307	1,355 1,243 1,439	1,412 1,341 1,264	1,29			
April	6,213	6,206 5,800 6,878	6,262	4,033	3,969 3,930 3,846	1,287 1,315 1,649	1,364 1,254 1,478				
July	6,649	6,625	6,324		3,992 4,189 4,302	863 1,450 1,239	870 1,543 1,305	1,30 1,32 1,32			
October	r6,766	r6,785		4,105 4,359 p4,067	4,089 4,418 p4,227	1,487 1,268 pl,124	1,468 1,271 pl,167	pl,27			

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See page 11.)



	683. Budget ou tional defense fu	utlays for the na- unction, Treasury	685. Defense compens	Dept. personnel ation, DOD	Manu	facturers' shipments	, Census	689. Manufac- turers' ship-
Year and	Seasonally adjusted*	Moving average of seasonally adjusted data—	Not seasonally adjusted	Seasonally adjusted*	687. Defense products industries.	688. Defe	ense products	ments to the U.S. Government,
month		6-month*			seasonally adjusted*	Seasonally adjusted*	Moving average of seasonally adjusted data—5-month*	aerospace industries, seasonally adjusted, Census*
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1971							(win. doi.)	(MII. UUI.)
January	6,500	6,402	2,545	0 500				
February	6,321	6,371	2,480	2,538	3,755	1,762	1,739	
March	6,440	6,357	2,600	2,564 2,561	3,740 3,771	1,691 1,651	1,687	3,665
April	6,061	6,441	2,536	2,541	2 501			•••
May	6,302	6,281	2,565	2,560	3,594	1,552	1,718	
June	7,019	6,153	2,537	2,512	3,820 4,338	1,677 2,018	1,695 1,692	4,027
July	5,540	6,062	2,524	2,487	2 514			
August	5,553	6,104	2,506	2,494	3,548	1,578	1,673	
September	5,898	6,108	2,511	2,504	3,584	1,637	1,640	3,404
October	6,309	6,018	2,480	2,525	3,511	2 #20		***
November	6,331	6,185	2,579	2,629		1,512	1,517	
December	6,479	6,350	2,654	2,646	3,587	1,542	1,485	3,049
1972			,,,,,	.,,.	2,000	1,438	1,499	***
January	6,542	6,494	2,713	2,697	2 5477	7 100		
February	6,538	6,623	2,681	2,677	3,567 3,601	1,478	1,500	
March	6,767	6,712	2,778	2,731	3,581	1,524	1,496	3,192
April	7,078	6,916	2,625	2,649	p3,625			***
May	6,865	6,783	2,638	2,583		1,522	1,510	***
June	7,707	6,648	2,711	2,698	(NA)	1,531	1,516	3,288
July	5,743	6,449	2,651	2,633		2 444		• • • • • • • • • • • • • • • • • • • •
August	5,731	6,328	2,693	2,643		1,556	1,516	
September	5,569	6,278	2,610	2,652		1,488	1,524	3,852
October	6,351	6,041	2,636	2,681				***
November	6,565	6,177	2,658	2,675		1,573	1,549	***
December	6,289	6,347	2,609	2,654		1,572	1,591	3,178
1973			,,,,,	2,054		1,560	1,607	***
January	6,556	6,527	2,811	2 715				
February	6,754	6,544	2,666	2,745		1,698	1,625	
March	6,648	6,456	2,728	2,714		1,630	1,639	3,578
April	6,452	6,574	2,675	2 600				* * *
May	6,034	6,370	2,736	2,688		1,640	1,653	
June	6,999	6,386	2,615	2,612		1,746	1,661	3,712
July	5,330	6,389	2,712	2,693				
August	6,850	6,379	2,735	2,684		1,673	1,632	***
September	6,669	6,544	2,615	2,673		1,552	1,625 r1,630	p3,733
October	6,394	(NA)	2,732	2,738				***
November	7,020 (NA)		p2,773 (NA)	p2,790		1,710 r1,607	pl,614	(NA)

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See pages 11 and 12.)



	Ratio, m	nanufacturers' unfille	ed orders to shipment	s, Census	Ratio,	manufacturers' inver	ntories to shipments,	Census	
Year	690. Defense pr	oducts industries	691. Defer	nse products	692. Defense p	roducts industries	693. Defense products		
and month	Seasonally adjusted*	Moving average of seasonally adjusted data— 4-month*	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*	Seasonally adjusted*	Moving average of seasonally adjusted data— 5-month*	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*	
	(Ratio)	(Ratio)	(Ratio)	(Ratio)	(Ratio)	(Ratio)	(Ratio)	(Ratio)	
1971									
January February March	7.0 6.9 6.7	6.8 6.8 6.9	9.6 10.1 10.3	9.7 10.0 10.1	3.2 3.2 3.2	3.2 3.2 3.2	2.9 3.0 3.0	3.0 3.0 3.0	
April	7.0 6.4 5.5	6.8 6.4 6.5	10.9 9.9 7.9	9.8 9.9 9.9	3.3 3.1 2.6	3.1 3.1 3.1	3.2 2.9 2.2	2.9 2.8 2.8	
July	6.9 6.8 7.0	6.4 6.6 6.9	10.4 10.0 11.4	10.1 10.1 10.3	3.2 3.1 3.3	3.1 3.1 3.2	2.8 2.6 3.0	2.8 2.7 2.7	
October	6.8 6.8 6.8	6.9 6.9 6.8	11.1 11.1 12.0	11.0 11.3 11.6	3.2 3.2 3.2	3.2 3.2 3.2	2.9 2.9 3.2	2.9 3.0 3.0	
January	6.9 6.8 6.8	6.8 6.8 p6.8	12.2 11.8 11.9	11.5 11.7 11.8	3.2 3.2 3.2	3.2 (NA)	3.1 3.0 3.1	3.0 3.1 3.1	
April	p6.7 (NA)	(NA)	12.0 11.9 13.5	12.1 12.1 12.3	(NA)		3.1 3.1 3.3	3.1 3.1 3.2	
July			12.3 13.0 12.6	12.5 12.6 12.7			3.1 3.3 3.2	3.2 3.2 3.2	
October			12.4 12.3 12.5	12.5 12.4 12.2			3.2 3.2 3.3	3.3 3.3	
1973 January			11.6 12.1 12.0	12.1 12.1 12.0			3.1 3.2 3.2	3.3 3.3 3.3	
April			12.4 11.7 13.2	12.2 12.3 12.5			3.3 3.1 3.5	3.2 3.2 3.2	
July			12.2 13.4 12.9	12.6 12.6 rl2.9			3.2 3.6 3.4	3.; 3.; 3.;	
October			12.2 r13.4 p13.2	pl2.9			3.2 3.4 (NA)	(NA	

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See page 12.)

# **Defense-Related Balance of Payments Components**



	546. Transfers un sales contra	der U.S. military agency cts (exports), BEA	547. Direct defense expenditures (imports),	696. U.S. Govt. with military	cash receipts associated sales contracts, BEA
Year and month	Not seasonally adjusted	Seasonally adjusted*	BEA, not seasonally adjusted*	Not seasonally adjusted	Seasonally adjusted*
			10+		
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1971					
January	***				
February	475	498	1,175	***	
March	***	470		204	264
				***	
April					
May	577	507	1,214	200	***
June	***		1,214	270	263
L.A.				•••	•••
July	***				
August	429	489	1,204	23.4	:::
September				214	275
Data bas			•••	***	•••
October	***				
November	432	419	1,237	358	211
December	***	•••		1	244
1972					***
January	***				
February	311	328	1,222	237	300
March	•••	•••	•••		
April	***	• • • •			
May	327	288	1,242	374	266
June	•••	•••			366
July					1
August	***	***	•••		
September	228	262	1,108	325	383
	***	•••	•••		
October					
November	200	287	•••		
December	299		1,151	455	342
	• • •	•••			
1973					
January	•••				
February	325	343	1 1/0	***	• • • •
March	•••		1,168	517	580
	***		•••		
April		100	1		
May	514	455	1 200	:::	***
lune	214		1,185	553	545
				***	•••
July	•••				
August	p466			***	
September	paoo	p534	pl,110	p591	p649
October					
November					
December	,				

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See page 13.)

# Appendix A. SEASONAL ADJUSTMENT FACTORS

	Series title						197	3					
	MONTHLY SERIES	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Def	ense Department gross obligations incurred:												
	617. Total 1	103.8	88.0	91.2	94.1	85.0	139.4	104.9	100.9	102.6	104.2	90.5	94.5
	619. Operations <sup>1</sup>	102.9	87.7	94.8	101.3	97.0	115.5	112.7	102.2	94.9	105.2	93.6	90.7
	621. Procurement	102.8	87.4	80.3	78.1	68.1	180.9	65.2	77.4	142.5	107.9	92.6	117.4
623	. Gross obligations incurred outside the Federal Government												
	for national defense <sup>1</sup>	106.2	86.8	93.7	92.8	90.3	122.4	105.3	105.8	97.4	106.4	97.9	94.0
625	. Defense Department military prime contract awards for		4.00										
	work performed in the United States	91.3	84.0	89.2	75.1	76.9	179.0	110.7	97.3	103.3	105.5	81.7	106.2
Defi	ense Department gross unpaid obligations outstanding:2												
	643. Total	102.7	101.2	99.0	97.4	93.6	98.0	98.7	100.7	102.0	103.2	102.1	
	644. Operations	106.2	100.2	95.2	93.9	90.0	89.6	97.1	104.9	104.7	111.6	106.3	100.1
	645. Procurement	102.8	102.6	99.9	98.2	95.8	101.3	98.7	97.4	99.6	100.4	100.8	101.8
648	. Manufacturers' new orders, defense products <sup>3</sup>	93.8	103.6	89.6	91.4	69.7	90.5	181.1	90.5	108.6	107.8	86.3	117.1
653	. Average weekly overtime hours, production workers, defense												
	products industries <sup>4</sup>	.1	2	1	3	3	.0	3	.0	.2	.2	.3	• :
654	. Accession rate, defense products industries <sup>4</sup>	1	2	1	2	1	.9	.1	.3	.2	.0	3	6
655	. Layoff rate, defense products industries4	.4	.3	.3	.1	2	3	2	1	1	.0	.0	:
	. Output of defense and space equipment <sup>3</sup>	100.7	99.9	100.4	99.4	99.9	100.8	98.7	99.0		100.1	100.9	101.5
659		98.7	100.1	101.5	101.8	101.9	100.5	100.3	99.3	98.2	100.1	99.6	98.
661	. Manufacturers' unfilled orders, defense products <sup>3</sup>	101.0	101.6	100.7	99.8	97.5	95.8	100.8	100.0	100.6	101.3	100.0	100.8
Em	ployment in defense products industries:												
	670. Total	100.3	100.1	99.9	99.4	99.3	99.7	99.8	99.7	100.5	100.3	100.4	100.
	671. Production workers	100.5	100.2	99.8	99.2	99.0	99.5	99.4	99.5	100.8	100.5	100.9	100.
673	Index of aggregate weekly man-hours, defense products										7		
	industries	100.3	99.7	100.0	99.2	99.1	99.6	99.0	99.4	100.5	100.4	101.0	101.
675	i. Index of aggregate weekly payrolls, production workers,												
	defense products industries	100.8	99.5	100.0	98.3	98.5	98.7	97.3	98.7	101.1	100.6	102.3	103.
Def	iense Department net outlays:												
50	680. Total, military functions and military assistance <sup>1</sup>	101.7	93.7	104.2	100.2	107.1	114.2	86.8	100.4	91.2	103.1	99.7	96.
	681. Operations <sup>1</sup>			97.9						93.6		98.7	
	682. Procurement <sup>1</sup>			113.9				99.2	94.0			99.7	
683								91.5	98.9			98.3	
68	5. Defense Department personnel compensation <sup>1</sup>												
688													
		-											_
	QUARTERLY SERIES		10			IIQ			IIIQ			IVQ	
20	O. Gross national product <sup>3</sup>		95.6			100.9			98.8			104.4	
26	4. Fed. Govt. purchases of goods and services, national defense <sup>3</sup>		97.3			103.4			97.4			101.1	
	6. Transfers under U.S. military agency sales contracts-exports <sup>5</sup>		-17			39			-34			12	
	fense Department military prime contract awards:					-			-		1		
UC	626. Aircraft		92.5			111.7			103.5			92.5	
	627. Missile and space systems		83.4			80.8			127.2			108.6	
	629. Weapons and ammunition		92.0			119.2			59.9			128.8	
	630. Electronic and communications equipment		90.4			129.5			80.6			99.7	
	631. Combat vehicles		77.0		1	121.1			117.1			85.4	
	632. Other hard goods		88.3			134.0			67.5			110.4	
	633. Soft goods		72.5			76.4			148.5			102.6	
	634. Construction		90.8			176.6		1	66.9			66.3	
	635. Services		64.9			93.5			135.7			108.3	
	636. Under \$10,000		97.6			126.7			81.4			94.2	
	637. Educational and nonprofit institutions		89.8			98.7			94.2			117.8	
	640. Outside U.S		81.9			86.8			155.2			75.5	
A	erospace industries:												
7.0	650. Manufacturers' new orders from the U.S. Government		90.5			78.1			131.3			101.4	
	664. Manufacturers' unfilled orders from the U.S. Government		101.2			94.8			104.0			100.0	
	689. Manufacturers' shipments to the U.S. Government	1	95.1			100.3			96.4			108.4	
69	16. U.S. Govt. cash receipts associated with military sales contracts <sup>4</sup>		-63			8			-58			113	
					1			1					

NOTE: The seasonal adjustment factors presented in this table were computed using the techniques described in the Bureau of the Census Technical Paper No. 15, The X-11 Variant of the Census Method II Seasonal Adjustment Program.

Monthly data for Defense Department military prime contract awards by commodity category (series 626 to 640) have not been adjusted for seasonal variation. The series on direct defense expenditures—imports (series 547), Defense Department progress payments outstanding (series 666), and Defense Department manpower (series 677 and 678) contain no measurable seasonal variation. The series on job vacancy rate, defense products industries (series 656) contains too few observations to be seasonally adjusted.

<sup>1</sup>Factors are products of seasonal and trading-day factors.
<sup>2</sup>Prior to 1972, data for gross unpaid obligations outstanding are not available for a number of months but these gaps were filled with averages of preceding and following months for purposes of estimating seasonal variation.

<sup>3</sup>These series have been adjusted by the source agencies. The factors shown here are implicit seasonal factors for the calendar year 1972 and are derived by dividing the seasonally unadjusted data by the seasonally adjusted data.

<sup>4</sup>These series have been seasonally adjusted using the additive version of the seasonal adjustment program. Seasonally adjusted data are derived by subtracting the adjustment factor from the unadjusted data. Seasonally adjusted data for other series are derived by dividing the seasonal factors into the unadjusted data.

unadjusted data.

This series is the total of component series which have been adjusted separately by the source agency. The factors shown here are implicit seasonal factors for the calendar year 1972 and are derived by subtracting the seasonally adjusted data from the seasonally unadjusted data.

# Appendix B. AVERAGE CHANGES AND RELATED MEASURES OF VARIABILITY

Part 1. Monthly Series

Caulan sista	Period	ō	CI	T	ī	ī/C	MCD	Average of run	
Series title	covered	U	LI	7		1/6	MCD	CI	MCD
Defense Department gross obligations incurred:								1	
617. Total	Jan. '57-Mar. '72	19.03	7.81	7.70	0.81	9.47	6	1.57	2.46
619. Operations	July '59-Mar. '72	8.03	2.72	2.61	.70	3.70	4	1.77	3.04
621. Procurement	Jan. '57-Mar. '72	45.56	22.94	22.77	1.84	12.40	6	1.49	2,16
623. Gross obligations incurred outside the Federal Government for national		42.20				-		7000	
defense	July '63-Mar. '72	(NA)	6.41	6.27	.81	7.74	6	1.51	2.68
625. Defense Department military prime contract awards for work performed		(2122)							
in the United States, total	Jan. '57-Mar. '72	33.99	15.74	15.60	1.37	11.36	6	1.37	2.06
Defense Department gross unpaid obligations outstanding:		33.77	-20.14	27.00	2.71	22.70			
643. Total	Jan. '57-Mar. '72	2.06	1.42	.91	.96	.95	1	2.84	2.84
644. Operations	Jan. '67-Mar. '72	5.20	2.58	2.42	.82	2.96	3	1.72	4.29
645. Procurement	Jan. '67-Mar. '72	2.58	1.88	1.16	1.27	.91	í	2.95	2.95
Manufacturers' new orders:	Jan. 07-mar. 72	4.70	1.00	1.10	1.21	• 71	-	2077	2.77
647. Defense products industries	Jan. '57-Mar. '72	(NA)	3 6 33	14.89	.97	15.32	6	1.58	2.33
648. Defense products		(NA)	15.11				6		2.32
	Feb. '68-Mar. '72	22.24	17.00	16.75	1.50	11.16	0	1.40	2.74
653. Average weekly overtime hours, production workers, defense products								0.03	
industries (hours)	Jan. '58-Mar. '72	.21	.14	.13	.05	2.76	3	2.21	3.43
654. Accession rate, defense products industries (per 100 employees)	Jan. '58-Mar. '72	.39	.17	.16	.05	3.01	4	2.27	3.5
655. Layoff rate, defense products industries (per 100 employees)	Jan. '58-Mar. '72	.17	.14	.14	.04	3.18	4	1.91	
656. Job vacancy rate, defense products industries (percent)	Apr. '69-Mar. '72	.09	(NA)	.08	.05	1.71	3	2.69	5.50
657. Output of defense and space equipment	Jan. '54-Sep. '72	(NA)	1.04	.47	.89	.53	1	5.51	5.5
Manufacturers' inventories:									
658. Defense products industries	Jan. '57-Mar. '72	(NA)	1.04	.52	.85	.62	1	2.80	
659. Defense products	Jan. '68-Mar. '72	1.90	1.90	1.39	1.36	1.02	2	2.63	4.90
Manufacturers' unfilled orders:								10000	
660. Defense products industries	Jan. '57-Mar. '72	(NA)	1.23	.90	.83	1.09	2	2.76	
661. Defense products	Jan. '68-Mar. '72	1.99	1.64	1.06	1.05	1.01	2	3.57	4.90
Employment in defense products industries:									
670. Total	Jan. '58-Mar. '72	.80	.73	.26	.66	.40	1	6.07	6.0
671. Production workers	Jan. '58-Mar. '72	1.08	.92	.46	.74	.61	1	3.78	3.78
673. Index of aggregate weekly man-hours, defense products industries	Jan. '58-Mar. '72	.94		.36	.68	. 53	1	4.86	4.8
675. Index of aggregate weekly payrolls, production workers, defense products									
industries	Jan. '58-Mar. '72	1.58	1.08	.66	.81	.82	1	3.15	3.1
Defense Department manpower:	Julia Go mar. 72	1 -1.50							
677. Military (1)	Jan. '57-Mar. '72	.67	(NA)	.27	.60	.45	1	3.96	3.9
678. Civilian (Q)	Jan. '57-Mar. '72	.54	1	.33	.44	.75	1	4.44	
Defense Department net outlays:	Jun. Or mai. 72	. 74	(MA)	.,,,			_	7	
680. Total, military functions and military assistance	Jan. '57-Mar. '72	8.48	3.82	3.73	.79	4.70	6	1.73	3.13
681. Operations	July '59-Mar. '72	7.84		3.26	.77	4.25	5	1.58	
682. Procurement	Jan. '57-Mar. '72	14.27	11.62		1.59	7.25	6	1.57	
683. Budget outlays for the national defense function			3.80	3.71	.71	5.23	6	1.64	
685. Defense Department personnel compensation	Jan. '67-Mar. '72	(NA)	1		.87	1.80	-	2.48	
Manufacturers' shipments:	Jan. 07-Mar. 12	2.47	1.87	1.58	.87	1.80	2	2.40	4.0
687. Defense products industries	Jan. '57-Mar. '72	(NA)	2.69	2.49	.87	2.85	3	1.64	3.4
688. Defense products		7.95	1		.94		5	1.47	
Ratio, manufacturers' unfilled orders to shipments:	Jan. 00-Mar. 72	1.90	4.01	4.05	. 74	4.71	,	1.41	1000
	lan (57 May (70	(N )	200	2 00	.96	2.82	,	1.90	3.8
690. Defense products industries		(NA)	2.95					1.79	
691. Defense products	Jan. '68-Mar. '72	9.30	5.11	5.04	.86	5.83	0	1.79	2.0
Ratio, manufacturers' inventories to shipments:		1					_	0 ./	
692. Defense products industries		(NA)			.72	4.01	5	2.46	
693. Defense products	Jan. '68-Mar. '72	9.58	5.19	5.29	.84	6.26	0	1.79	3.2

NA = not available

\*Measures for these series are based on actual changes rather than percent changes (see definition below). @ indicates measures are based on unadjusted data.

#### **BRIEF DEFINITIONS OF MEASURES SHOWN IN PART 1**

The measures in this appendix provide a historical perspective for interpreting current changes in each series. They are derived using the Census X-11 seasonal adjustment program. Brief definitions of the measures are given below; more complete definitions appear in *Electronic Computers and Business Indicators* by Julius Shiskin, issued as Occasional Paper 57 by the National Bureau of Economic Research, 1957 (reprinted from *Journal of Business*, October 1957).

" $\overline{O}$ " is the average month-to-month percent change, without regard to sign, in the original unadjusted series. (See final paragraph below for exceptions to these definitions.)

"CI" is the same for the seasonally adjusted series.

 $^{\prime\prime}\overline{C}^{\prime\prime}$  is the same for the short-term trend, which is a smooth, flexible moving average of the seasonally adjusted series.

 ${}^{\prime\prime}\overline{l}^{\prime\prime}$  is the same for the irregular component, which is obtained by dividing the seasonally adjusted series by the short-term trend.

"Ī/C" measures the relative smoothness (small values) or irregularity (large values) of the seasonally adjusted series. It is the ratio of the average monthly percent change (without regard to sign) in the irregular component to the average monthly percent change (without regard to sign) in the short-term

"MCD" (months for cyclical dominance) estimates the number of months required for the short-term trend to dominate the irregular component. Average percent changes are computed for spans of from 1 to 12 months for both the irregular component and the short-term trend. MCD is the shortest span of months for which the average percent change (without regard to sign) in the short-term trend is greater than that in the irregular component. All MCD's greater than "5" are shown as "6".

# Appendix B. AVERAGE CHANGES AND RELATED MEASURES OF VARIABILITY—Continued

"Average Duration of Run" (ADR) is another measure of smoothness and is equal to the average number of consecutive monthly changes in the same direction in any series of observations. When there is no change between two observations, a change in the same direction as the preceding change is assumed. The ADR is shown for the seasonally adjusted series (CI) and the MCD curve, which is a moving average (with the number of terms equal to MCD) of the seasonally adjusted series. A comparison of these measures with the expected ADR of a random series indicates whether the changes approximate those of a random series. In a random series, the expected ADR is 1.5 and the actual values fall between 1.36 and 1.75 about 95 percent of the time. For a moving average of a random series, the expected ADR is 2.

Measures for series identified with an asterisk (\*) are computed by an additive method. This method is used for series with zero or negative data, series which could approach zero, and series expressed in percent. In this method, the measures are defined the same as above except for two differences: (1) the measures are based on actual month-to-month changes (rather than percent changes) and (2) the irregular component is obtained by subtracting the short-term trend from the seasonally adjusted series. The average changes shown above for the components of such a series are in the same unit of measure as the series itself. The unit is indicated in the series title.

Part 2. Quarterly Series

	Series title	Period	ō	CI	Т	<u></u>	T/C	OCD	Average of run	duration (ADR)
	DOLLOS TITLO	covered	Ü	OI			""	ucb	CI	QCD
200.	Gross national product	10 '57-10 '72	5.74	1.69	0.33	1.61	0.21	1	8.57	8.57
264.	Federal Government purchases of goods and services, national defense	10 '57-10 '72	6.20	2.06	.76	1.73	.44	1	3.16	3.16
*546.	Transfers under U.S. military agency sales contracts—exports (mil. dol.)	10 '60-10 '72	66.79	45.21	34.88	21.28	1.64	2	1.50	2.14
*547.	Direct defense expenditures-imports (mil. dol.) (0)	10 '60-10 '72	31.29	(NA)	21.52	19.61	1.10	2	1.92	2.76
	the state of the s	10 '57-10 '72	•33	.18	.08	.16	.48	1	5.45	5.45
	industries	10 '61-10 '72	(NA)	17.36	15.66	5.47	2.86	3	1.33	1.83
664.	Manufacturers' unfilled orders from the U.S. Government, aerospace industries	10 '61-10 '72	(NA)	3.78	2.23	2.60	.86	1	2.75	2.75
666.	Defense Department progress payments outstanding (1)	10 '57-10 '72	4.96	(NA)	2.32	4.47	.52	1	2.40	2.40
689.	Manufacturers' shipments to the U.S. Government, aerospace industries	10 '61-10 '72	(NA)	3.77	2.69	2.13	1.26	2	1.76	2.39
696.	U.S. Government cash receipts associated with military sales contracts (million dollars)	10. '60-10. '72	100.92	71.44	52.25	36.54	1.43	2	1.71	2.24

NA = not available.

#### **BRIEF DEFINITIONS OF MEASURES SHOWN IN PART 2**

These measures are defined the same as those in part 1 except that they are based on quarter-to-quarter percent changes. For example,  $\vec{Cl}$  is the average quarter-to-quarter percent change (without regard to sign) in the seasonally adjusted series.

In deriving "QCD" (quarters for cyclical dominance), average percent changes are computed for spans of from one to four quarters for the irregular component and the short-term trend. QCD is the shortest span of quarters for

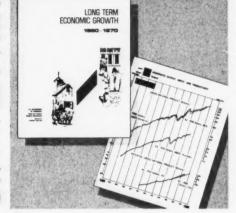
which the average percent change (without regard to sign) in the short-term trend is greater than that in the irregular component. All QCD's greater than "3" are shown as "4". The "Average Duration of Run" (ADR) measures are also expressed in quarters.

As in part 1, measures for series identified with an asterisk (\*) are computed by an additive method. This method is the same as that used for the monthly series except for the use of quarterly data rather than monthly.

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## ALPHABETICAL INDEX—SERIES FINDING GUIDE

Series title	Series		umbers)	Historical data (issue	Series descriptions (issue	Series title	Series		nt issue iumbers)	Historical data	Series description
		Charts	Tables	date)	date)		numper	Charts	Tables	(issue date)	(issue date)
Accession rate, defense products industries	654	8	21	8/73	4/73	Inventories, manufacturers'					
Manufacturers' new orders from U.S. Government	650	See New	orders	1		Defense products Defense products industries	659 658	9	22	8/73	2/73
Manufacturers' shipments to U.S. Government	689	See Ship	ments.			Hatio to shipments, defense products	693	12	26	8/73	2/73
Manufacturers' unfilled orders from U.S. Government	664	See Unfi	lled orders			Ratio to shipments, defense products industries	692	12	26	11/72	2/73
Balance of payments (defense-related)						Job vacancy rate, defense products industries	656	8	21	8/73	100
Cash receipts associated with military sales contracts	696	13	27	0/73	10/73		030		CT	0/13	4/73
Direct defense expenditures	547	13	27	9/73	10/73	Layoff rate, defense products industries	655	8	21	8/73	4/73
Transfers under military agency sales contracts	546	13	27	9/73	10/73	Man-hours, defense products industries		10	23	8/73	4/73
Budget outlays for national defense function	683	See Outl	ays.	1		Manpower - See Civilian manpower and Military	673	10	23	0/13	4/13
						manpower.	027	10	23	9/73	0/10
Cash receipts associated with military sales contracts Civilian manpower, Defense Department	696 678	See Balar	nce of pay		. 11/00	Military manpower, Defense Department Military prime contract awards—See Contract awards.	677	10	22	7/13	8/68
Compensation	6/8	10	23	9/73	8/68	prince of the contract divides.					
Payrolls, aggregate weekly, defense products						Net outlays, Defense Department - See Outlays.					
industries	675 685	10	23	8/73	4/73	New orders, manufacturers'					
Contract awards, military prime	685	11	25	10/73	8/68	Defense products	648	7	20	8/73	2/73
Aircraft	626		16	11/73	8/68	From Government, aerospace industries	647 650	8	20	11/72 9/73	2/73
Compat venicles	631	***	17	11/73	8/68	The state of the s	030	1	20	21.12	412
Construction Contracts under \$10,000	634 636	***	18	11/73	8/68	Obligations incurred, gross					
Educational and nonprofit institutions	637		19	11/73	8/68	Defense Department, operations	619		15	6/73	8/68
Flectronic and communications equipment	630		17	11/73	8/68	Defense Department, procurement Defense Department, total	621	6	15	6/73	8/68
Missile and space systems	627		16	11/73	8/68	Dutside Countement for national defence	617 623	6	15 16	6/73	8/68
Missile and space systems Other hard goods Services	632 635		18	11/73	8/68	Ubligations outstanding, gross unpaid	023		10		10/73
Ships	628		17	111/73	8/68		644		20	9/73	8/68
Ships	633	7	18	11/73	8/68	Defense Department, procurement Defense Department, total	645 643	7	20 19	9/73	8/68
Weapons and ammunition	625 629		16	11/73	8/68	Operations, Defense Department	643	1 "	19	9/73	8/68
Work outside the U.S.	640		17	11/73	8/68	Net outlays	681	See Outl	avs	1	
					0,00	Obligations incurred Unpaid obligations outstanding	619 644	See Obli	gations inci	urred.	
Defense and space equipment, output	657	See Outp	out of defe	nse and spar	e equipment.	Orders—See New orders and Unfilled orders.	044	See Ubli	gations out	standing.	
Defense Department				1	1	Budget outlays for national defense function	683	11	25	10/73	10/73
Gross obligations incurred—See Obligations incurred. Gross unpaid obligations outstanding—See						Defense Department, operations	681	7.1	24	9/73	8/68
Obligations outstanding.							682	11	24	9/73	8/68
Manpower-See Civilian manpower and Military						Defense Department, total	680	11	24	9/73	8/68
manpower, Military prime contract awards—See Contract awards.						Output of defense and space equipment Overtime hours, defense products industries	657 653	9 8	22	8/73 8/73	10/73
Net outlays—See Outlays.						The state of the s	033		ET	0/13	4/ (2
Personnel compensation	685	See Com	pensation.	1	1	Payrolls, aggregate weekly, defense products industries	675 )				
Progress payments outstanding	666 547	See Prog	ress payme			Personnel compensation, Defense Department	685	See Com	pensation.		
enses autumo unpurgituros	341	See Data	ice or pays	ments.	r	Procurement, Defense Department Net outlays	682	0.0.			
F1						Obligations incurred	621	See Outl	ays. gations inc	rend	
Employment Accession rate, defense products industries	654	Can Annua	ssion rate.			Unpaid obligations outstanding	645	See Obli	gations out	standing.	
Employment, production workers, defense products	034	See Acce	1	1	1	Progress payments outstanding, Defense Department Purchases of goods and services for national defense	666 264	9	gations out   22	9/73	8/68
industries	671	10	23	8/73	4/73	s and the second services for national defense	204	See Gros	s national	product.	
Employment, total, defense products industries Job vacancy rate, defense products industries	670 656	10	22 vacancy ra	8/73	4/73	Shipments, manufacturers'					
Layoff rate, defense products industries	655	See Laye	off rate.	18.		Defense products	688	12	25	8/73	2/73
Man-hours, defense products industries	673	See Man-				Detense products industries	687	12	25	11/72	2/73
Manpower – See Civilian manpower and Military manpower.				1		Ratio, inventories to shipments, defense products Ratio, inventories to shipments, defense products	693	See Inve	ptories		
Overtime hours, defense products industries	653	See Over	time hours	1	1	industries	692	See mye	I I I I I I I I I I I I I I I I I I I	1	i
Expenditures – See Outlays.		000 010	1	1	1	Ratio, unfilled orders to shipments, defense products	691				
				1		Ratio, unfilled orders to shipments, defense products industries	690	See Unfi	lled orders		
Federal purchases of goods and services for national						To Government, aerospace industries	689	12	25	9/73	2/73
defense	264	See Gros	s national	product.	1						
						Transfers under military agency sales contracts	546	See Bala	nce of pays	ments.	
Gross national product						Unfilled orders, manufacturers'					,
Federal purchases of goods and services for national defense	204		71	0/00	10/00	Defense products	661	9	22	8/73	2/73
Gross national product	264 200	5	14	9/73	10/73	Detense products industries	660	9	22	7/71	2/73
National defense purchases as percent of GNP	613	5	14	9/73	10/73	From Government, aerospace industries	664 691	9	22	9/73 8/73	2/73
Gross obligations incurred—See Obligations incurred.						Ratio to shipments, defense products industries	690	12	26	11/72	2/73
Gross unpaid obligations outstanding—See Obligations						Unpaid obligations outstanding - See Obligations				, /-	-
outstanding.						outstanding.					



